

AMENDMENTS

Please amend the application as indicated hereafter.

To the Claims:

Claim 1 (currently amended) A serial-protocol panel display system, suitable for use in a panel display apparatus, comprising:

a pixel-array unit;

a plurality of gate drivers and source drivers, used for driving the pixel-array unit to display image; and

a video graphic adapter (VGA) unit, according to a serial protocol, to export a serial-protocol image display signal and a clock signal to a corresponding one of the gate drivers and one of the source drivers,

wherein the gate and source drivers respectively decode the serial-protocol image display signal, so as to obtain a plurality of input signals, and to drive pixels of the pixel-array unit and the serial-protocol image display signal is at least one of red or green or blue pair signal.

Claim 2 (previously presented) The serial-protocol panel display system of claim 1, further comprising a connector, coupled between the VGA unit and the gate and source drivers.

Claim 3 (previously presented) The serial-protocol panel display system of claim

1, further comprising a gamma correction unit, to provide a color management information to the source drivers.

Claim 4 (original) The serial-protocol panel display system of claim 1, further comprising a power source unit, to provide a plurality of voltage levels for use in the panel display system.

Claim 5 (canceled)

Claim 6 (previously presented) The serial-protocol panel display system of claim 1, each of the source drivers includes:

a source input interface, receiving the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the source drivers, and are used for decoding out a plurality of source input signals in the input signals; and

a state-in-the-art source driver, respectively receiving the source input signals.

Claim 7 (original) The serial-protocol panel display system of claim 6, wherein the source input interface comprises:

a decoding unit, according to the serial-protocol image display signal and the

clock signal, decoding into the source input signals and exporting to the state-in-the-art source driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the source drivers, and coupled with the decoding unit for exporting a decoded color information and the clock signal to the state-in-the-art source driver.

Claim 8 (original) The serial-protocol panel display system of claim 6, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 9 (previously presented) The serial-protocol panel display system of claim 1, wherein each of the gate drivers includes:

a gate input interface, receiving at least a portion of the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the gate drivers, and are used for decoding out a plurality of gate input signals in the input signals; and

a state-in-the-art gate driver, respectively receiving the gate input signals.

Claim 10 (original) The serial-protocol panel display system of claim 9, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 11 (original) The serial-protocol panel display system of claim 10, wherein the gate input interface includes:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the gate input signals and exporting to the state-in-the-art gate driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the gate drivers, and coupled with the decoding unit for exporting a clock signal to the state-in-the-art gate driver.

Claim 12 (original) The serial-protocol panel display system of claim 1, wherein the VGA unit includes:

a VGA chip; and

a protocol encoder, coupled with the VGA chip for encoding, and exporting the serial-protocol image display signal and clock signal.

Claims 13-14 (canceled)

Claim 15 (currently amended) A gate driver, suitable for use in a panel display apparatus to drive corresponding pixels, comprising:

a gate input interface, receiving a serial-protocol image display signal and a clock signal, wherein the serial-protocol image display signal and the clock signal are

continuously transmitted to a next one of the gate driver, and are used for decoding out a plurality of gate input signals; and

a state-in-the-art gate driver, respectively receiving the gate input signals;

wherein, the serial-protocol image display signal is at least one of red or green or blue pair signal.

Claim 16 (previously presented) The gate driver of claim 15, wherein the gate input interface includes:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the gate input signals and exporting to the state-in-the-art gate driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the gate driver, and coupled with the decoding unit for exporting the clock signal to the state-in-the-art gate driver.

Claim 17 (currently amended) A video graphic adapter (VGA), suitable for use in a panel display apparatus to receive image control signals, comprising:

a VGA chip, for receiving an image control signal; and

a protocol encoder, coupled with the VGA chip for encoding, and exporting a serial-protocol image display signal and a clock signal;

wherein, the serial-protocol image display signal is at least one of red or

green or blue pair signal.

Claim 18 (currently amended) A serial-protocol panel display method, comprising:

- receiving an image control signal and a clock signal;
- encoding the image control signal into a serial-protocol image display signal, according to a serial protocol;
- sequentially transmitting the serial-protocol image display signal and the clock signal to a plurality of source drivers;
- sequentially transmitting at least a portion of the serial-protocol image display signal and the clock signal to a plurality of gate drivers;
- decoding the serial-protocol image display signal into a first set of control signals and a color information in each of the source drivers, used for pixel display;
- decoding the serial-protocol image display signal into a second set of control signals in each of the gate drivers; and
- driving the corresponding pixels, according to the first set of control signals, the second set of control signal, and the color information;

wherein, the serial-protocol image display signal is at least one of red or green or blue pair signal.

Claim 19 (currently amended). A serial-protocol panel display system, suitable for use in a panel display apparatus, comprising:

a pixel-array unit;
a plurality of drivers, used for driving the pixel-array unit to display image; and
a video graphic adapter (VGA) unit, according to a serial protocol, to export a serial-protocol signal and a clock signal to a corresponding one of the drivers,
wherein the drivers decode the serial-protocol signal, so as to obtain a plurality of image signals and control signals, and to drive pixels of the pixel-array unit;
wherein, the serial-protocol image display signal is at least one of red or green or blue pair signal.

Claim 20 (previously presented) The serial-protocol panel display system of claim 19, further comprising a connector, coupled between the VGA unit and the drivers.

Claim 21 (previously presented) The serial-protocol panel display system of claim 19, further comprising a gamma correction unit, to provide a color management information to the driver.

Claim 22 (previously presented) The serial-protocol panel display system of claim 19, further comprising a power source unit, to provide a plurality of voltage levels for use in the panel display system.

Claim 23 (previously presented) The serial-protocol panel display system of

claim19, wherein the drivers include source drivers and gate drivers.

Claim 24 (previously presented) The serial-protocol panel display system of claim 23, each of the source driver includes:

a source input interface, receiving the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the source drivers, and are used for decoding out a plurality of source input signals in the input signals; and

a state-in-the-art source driver, respectively receiving the source input signals.

Claim 25 (previously presented) The serial-protocol panel display system of claim 24, wherein the source input interface comprises:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the source input signals and exporting to the state-in-the-art source driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the source drivers, and coupled with the decoding unit for exporting a decoded color information and the clock signal to the state-in-the-art source driver.

Claim 26 (previously presented) The serial-protocol panel display system of claim 24, wherein the serial-protocol image display signal includes color signals of red, green,

and blue.

Claim 27 (previously presented) The serial-protocol panel display system of claim 23, each of the gate driver includes:

a gate input interface, receiving at least a portion of the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the gate drivers, and are used for decoding out a plurality of gate input signals in the input signals; and

a state-in-the-art gate driver, respectively receiving the gate input signals.

Claim 28 (previously presented) The serial-protocol panel display system of claim 27, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 29 (previously presented) The serial-protocol panel display system of claim 28, wherein the gate input interface includes:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the gate input signals and exporting to the state-in-the-art gate driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal

to the next one of the gate drivers, and coupled with the decoding unit for exporting a clock signal to the state-in-the-art gate driver.

Claim 30 (previously presented) The serial-protocol panel display system of claim 19, wherein the VGA unit includes:

a VGA chip; and

a protocol encoder, coupled with the VGA chip for encoding, and exporting the serial-protocol image display signal and clock signal.